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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,580	09/04/2003	Yoshiaki Tanaka	10844-33US (203061 (C-3))	7843
570	7590	06/17/2005	EXAMINER	
AKIN GUMP STRAUSS HAUER & FELD L.L.P. ONE COMMERCE SQUARE 2005 MARKET STREET, SUITE 2200 PHILADELPHIA, PA 19103			VORTMAN, ANATOLY	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

Office Action Summary	Application No. 10/656,580	Applicant(s) TANAKA, YOSHIAKI	
	Examiner Anatoly Vortman	Art Unit 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,51,53,55 and 57 is/are rejected.
- 7) ☒ Claim(s) 7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47 and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

1. The submission of the Request for Reconsideration filed on 05/17/05 is acknowledged.

No claims have been amended.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5, 51, 53, 55, and 57, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA).

Regarding claims 1 and 3, Applicant has disclosed in the "Description of the Prior Art" section of the instant specification (p.2 through 7) that fuses having fuse elements of ternary In-Sn-Bi alloys had been known in the fuse art at the time the invention was made. Specifically, the Applicant has pointed out in relation to JP/2001-266724 that fuse element which has an alloy composition of 42 to 53% In, 40 to 46% Sn, and 7 to 12% Bi was known in the fuse art (see p. 4, of the specification, lines 3 and 4). The claimed ranges as recited in claim 1 are overlapping or close to the aforementioned AAPA ranges.

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Thus, it would have been obvious to a person of ordinary skill in the fuse art at the time the invention was made to select ranges for ternary In-Sn-Bi alloy as claimed in claim 1, since a prima facie case of obviousness typically exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art. E.g., In re Geisler, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997); In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (CCPA 1976); In re Malagari, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (CCPA 1974).

Also, a prima facie case of obviousness typically exists when the ranges of a claimed composition do not overlap but close enough such that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 783, 227 USPQ 773, 779 (Fed. Cir. 1985).

Regarding claim 5, the fuse element is inherently contains inevitable impurities.

Regarding claims 51, 53, 55, and 57, AAPA in relation to JP/2001-266724 teaches that fuse element (2) is connected between a pair of lead conductors (1) and sandwiched between insulating films (3) (see Fig. 1, 2 of JP/2001-266724).

Allowable Subject Matter

4. Claims 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, and 49, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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5. The following is a statement of reasons for the indication of allowable subject matter:

regarding claims 7 and 9, the claims recite: "a portion of each of said lead conductors...is covered with an Sn or Ag film.";

regarding claims 11, 13, 15, and 17, the claims recite: "conductors have a disk-like shape";

regarding claims 19 and 21, the claims recite: "metal particles are made of a material selected from the group consisting of Ag, Ag-Pd, Ag-Pt, Au, Ni, and Cu.";

regarding claims 23, 25, 27, 29, 31, 33, 35, 37, 39, and 41, the claims recite: "a heating element"; and,

regarding claims 43, 45, 47, and 49, the claims recite: "said other face of said insulating plate is covered with an insulating material".

The aforementioned limitations in combination with all remaining limitations of the respective claims are believed to render the claims patentable over the art of record.

Response to Arguments

6. Applicant's arguments have been fully considered but they are not persuasive. The Applicant had provided extensive explanation of the differences between the claimed alloy and one taught by the AAPA (JP/2001-266724). However, no convincing arguments have been provided regarding the reasons why it would not have been obvious to one versed in the relevant art at the time the invention was made to adjust the ranges of AAPA alloy in order to arrive at the ranges as claimed. The Examiner believes that all it takes to arrive to the claimed ranges is a

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routine experimentation with the AAPA alloy. The artisan in the relevant art at the time the invention was made, would have arrived at the claimed ranges in course of routine experimentation, since it has been held that determination of optimum or workable ranges might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPC 6 (CCPA 1977), and involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Thus, while routinely experimenting with AAPA alloy at the time of the invention, one versed in the relevant art would have noticed positive changes in physical properties of the resulting alloy, and would have arrived at the ranges as claimed in order to enhance breaking characteristics of the fuse. As such, statements of obviousness presented in the outstanding rejection are believed to be proper and rejection is maintained herein.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in dark ink, appearing to read 'A. Vortman', with a long horizontal stroke extending to the right.

Anatoly Vortman
Primary Examiner
Art Unit 2835

AV

Continuation of Disposition of Claims: Claims withdrawn from consideration are
2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,50,52,54,56 and 58.